

ABSTRACT OF THE DISCLOSURE

A collision avoidance system and method is based on receiving and processing Mode-S transponder messages without interrogating the transponders of the respective aircraft flying in formation. A collision avoidance computer and Mode-S transponder are used to provide distributed intra-formation control among multiple cells of aircraft flying in formation or close-in. The Mode-S transponder provides ADS-B Global Positioning System (GPS) squitter data to the computer. A mission computer is coupled to the collision avoidance computer. The mission computer may provide steering commands transmitted to other formation member aircraft. The method and system allow a safe separation between 2 to 250 aircraft flying in formation at selectable ranges.